



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,321	12/03/2001	Thomas Honger Callisen	10096.200-US	9485
25908 7590 03/17/2008 NOVOZYMES NORTH AMERICA, INC. 500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110				
EXAMINER KISHORE, GOLLAMUDI S				
ART UNIT		PAPER NUMBER		
1612				
MAIL DATE		DELIVERY MODE		
03/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/005,321

Applicant(s)

CALLISEN, THOMAS HONGER

Examiner

Gollamudi S. Kishore, Ph.D

Art Unit

1612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,10,11,14,15,17,19 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) 10,11,14,15,17,19 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The RCE dated 2-8-08 is acknowledged.

1. Newly submitted claims 10-11, 13-15, 17, 19, 22-24 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The originally submitted claims were drawn to **either** di block **or** triblock polymeric vesicles whereas said claims 10-11, 13-15, 17, 19 and 22-24 are drawn to vesicles containing **both** diblock and triblock copolymers. The vesicles in these claims are totally different.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 10-11, 13-15, 17, 19 and 22-24 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims included in the prosecution are 1-2, 4-6, 8 and 25-28.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear as to what applicant intends to convey by 'wherein the composition is a detergent' as recited in claim 4. Does it mean it contains a surfactant or the entire

Art Unit: 1612

composition is a detergent for washing purposes? Since the block copolymers themselves are surfactants, it is unclear as to what applicant intends to convey.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 5-6, 8 and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Meier (6,916,488).

Meier discloses vesicles made of amphiphilic triblock copolymers containing instant monomers and encapsulating enzymes such as lactamase (abstract, col. 3, line 23 through col. 7, line 65; Examples, example 4 in particular). Instant claims 25-28 recite the functional limitation of the stability of the vesicles in the presence of a surfactant. The burden is upon applicant that the prior art polymersomes do not behave the same way as instant polymersomes.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

Art Unit: 1612

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, 5-6, 8 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (5,017,501) in view of Disher (Science, 1999) or vice versa; that is, Disher in view of Wong.

Wong teaches enzyme encapsulated liposomal compositions. Although Wong does not teach the preparation of polymersomes containing di or tri block polymers, he teaches the use of synthetic surfactants for the preparation of liposomes (abstract, col. 8, lines 3-18 and examples).

Disher teaches that amphiphilic diblock polymers (polyethylene oxide-polyethylethylene) like phospholipids when dispersed in water self-assemble into lamellar structures (vesicles) and the vesicles thus formed are tough vesicles and are useful for encapsulation (abstract and page 1145).

It would have been obvious to one of ordinary skill in the art to use vesicles made entirely from Pluronic which is an amphiphilic diblock polymer in the compositions of Wong since Disher teaches that such vesicles are tough; Alternately, to encapsulate enzymes in Discher's vesicles made entirely from diblock polymers would have been obvious to one of ordinary skill in the art with a reasonable expectation of success since Disher is suggestive of encapsulation of active agent and Wong shows that enzymes can be encapsulated within the liposomes.

Art Unit: 1612

8. Claims 1-2, 4-6, 8 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disher (Science, 1999) in view of Meier (6,916,488) or vice versa; that is, Meier in view of Disher.

Disher teaches that amphiphilic diblock polymers (polyethylene oxide-polyethylethylene) like phospholipids when dispersed in water self-assemble into lamellar structures (vesicles) and the vesicles thus formed are tough vesicles and are useful for encapsulation (abstract and page 1145). Disher however, does not teach the encapsulation of enzymes within the polymersomes.

Meier as discussed above, discloses vesicles made of amphiphilic triblock copolymers containing instant monomers and encapsulating enzymes such as lactamase (abstract, col. 3, line 23 through col. 7, line 65; Examples, example 4 in particular).

It would have been obvious to one of ordinary skill in the art to encapsulate enzymes in Disher's vesicles with a reasonable expectation of success since Meier shows that enzymes can be encapsulated within block copolymer vesicles. Alternately, to use the polymeric vesicles of Disher to encapsulate the enzymes taught by Meier would have been obvious to one of ordinary skill in the art since these vesicles are also tough as taught by Disher.

Art Unit: 1612

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong or Meier each in view of Disher (Science, 1999) or vice versa as set forth above, further in view of WO 97/24177 of record.

The teachings of Wong, Meier and Disher have been discussed above. What is lacking in these references is the teaching of the use of the composition as detergent compositions.

WO 97 teaches liquid detergent compositions containing non-ionic block copolymers such as ethylene oxide-propylene oxide and encapsulating enzymes. The amount of this polymer is between 1-50 %. (abstract, page 19, lines 13-32 and pages 44-48. One of ordinary skill in the art would be motivated further to use the tough vesicular preparations made from the diblock polymers of Meier and Disher since WO 97 shows the use of these polymers for the encapsulation of enzymes in laundry detergent compositions.

Applicant's arguments have been fully considered, but are deemed to be moot in view of these new rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gollamudi S. Kishore, Ph.D whose telephone number is (571) 272-0598. The examiner can normally be reached on 6:30 AM- 4 PM, alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gollamudi S Kishore, Ph.D/
Primary Examiner, Art Unit 1612

GSK